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## CITY OF SANTA BARBARA

### COUNCIL AGENDA REPORT

**AGENDA DATE:** March 1, 2022

**TO:** Mayor and Councilmembers

**FROM:** Engineering Division, Public Works Department

**SUBJECT:** Contract For Design Of El Estero Water Resource Center SCADA Upgrades Project

#### **RECOMMENDATION:**

That Council authorize the Public Works Director to execute a City Professional Services contract with Aspect Engineering Group in the amount of \$124,637 for design services of the El Estero Water Resource Center SCADA Upgrades Project, and authorize the Public Works Director to approve expenditures of up to \$12,464 for extra services that may result from necessary changes in the scope of work.

#### **DISCUSSION:**

##### Background

The City's El Estero Water Resources Center (El Estero) plays an essential role in protecting public health and the environment. El Estero is responsible for treating approximately six million gallons of municipal wastewater per day from the City of Santa Barbara. The plant sits on 13 acres in downtown Santa Barbara and treats water to secondary standards for discharge to the Pacific Ocean, or to Title 22 standards for distribution in the recycled water system. The treatment system consists of many large process units and motorized equipment such as pumps, tanks, blowers, mixers, and instrumentation. The process is monitored and controlled by a series of remote Programmable Logic Controllers (PLC) throughout the plant. The information from all the instruments captured and controlled in these PLCs is read and trended by a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is made up of a combination of software packages and hardware within the plant. SCADA allows plant operators to remotely access and control equipment like pumps, valves, and gates, trends historical data, and sends alarms when a parameter is out of its acceptable range. This remote monitoring and control greatly improves the efficiency of plant operation; importantly, it improves treatment by precise adjustment of the process, and allows operator's quick response times to changing process conditions. The existing SCADA system is nearing the end of its useful life and is in need of updates to both software and hardware. The older technology in use today puts the plant at increased cybersecurity risk, as well as the risk of failure to a critical system for plant operation.

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### Project Description

This contract provides design services from Aspect Engineering Group (Aspect) to assess and design an updated SCADA system for El Estero. Aspect will review the existing SCADA system and perform a gap analysis to see where areas for improvement exist. With this holistic understanding, Aspect will use their industry expertise to recommend combinations of software and hardware that will both update the existing system and improve functionality.

The hardware portion of the work consists of replacing much of the SCADA equipment around the plant, such as servers, operator computers, and any needed hardware in PLC cabinets to meet the demands of updated software. The software portion of the work will assess, and selectively choose, modules and updates to the main SCADA software, the alarm callout system, data trending software, and reporting software that will best meet the needs of current and future plant operations. It will take approximately five months to produce the design package, which includes in-depth collaboration with El Estero staff. The design package will include hardware and software specifications, an implementation plan including transition sequencing, and start-up testing procedures among other necessary documentation to procure and install the new system.

### Implementation Phase

The Request for Proposal (RFP) included language to retain the same integrator for both design and implementation due to the specialized and technical nature of this work. It is critical for project success that the same firm design and implement the work. Consultant continuity ensures key decisions and logic processes are upheld during implementation and reduces potential errors when installing such a complex system. Aspect is qualified to provide these services. Both portions of work are considered professional services. The City will enter negotiations with Aspect on cost and scope for the implementation phase after completion of the design. Staff will return to Council for approval of the implementation contract, which is anticipated to be in fall of 2022.

### Design Phase Consultant Engineering Services

Staff recommends that Council authorize the Public Works Director to execute a contract with Aspect Engineering in the amount of \$124,637 for design and \$12,464 for potential extra services, for a total amount of \$137,101. Aspect is experienced in this type of work and was selected as part of a competitive RFP process that was sent to four integration firms. The City received three proposals, and Aspect was selected based on its strong qualifications and detailed, thoughtful approach to upgrading El Estero's SCADA system.

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**BUDGET/FINANCIAL INFORMATION:**

The following summarizes all estimated total Project costs:

**ESTIMATED TOTAL PROJECT COST**

Design (by Contract)	\$137,101
Estimated Project Administration – City Staff (Design & Implementation)	\$30,000
Estimated Peer Review of Design (by Contract)	\$20,000
<b>Subtotal</b>	<b>\$187,101</b>
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Estimated Implementation Contract w/Change Order Allowance (FY23)	\$814,000
<b>Subtotal</b>	<b>\$814,000</b>
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<b>TOTAL PROJECT COST</b>	<b>\$1,001,101</b>

There are sufficient appropriated funds in the Wastewater Capital Fund to cover the cost of design. Construction funding will be budgeted as part of the Fiscal Year 2023 Wastewater Capital budget.

A copy of the contract may be requested from the Public Works Department for public review by contacting [PWInfo@SantaBarbaraCA.gov](mailto:PWInfo@SantaBarbaraCA.gov).

**ENVIRONMENTAL REVIEW**

This project does not require California Environmental Quality Act (CEQA) review, as it entails software and computer hardware upgrades to an existing facility.

**WATER COMMISSION RECOMMENDATION:**

This item was presented to the Water Commission at its meeting on February 17, 2022, and the Commission voted **X-X** in support of staff’s recommendation.

**PREPARED BY:** Philip Maldonado, P.E., Acting Principal Civil Engineer/ZS/lm

**SUBMITTED BY:** Clifford M. Maurer, P.E., Public Works Director

**APPROVED BY:** City Administrator’s Office